REMARKS

Claims 5-8 have been withdrawn from consideration. Claim 1 has been amended. Claim 4 has been canceled. Claims 9-16 have been added. Thus, claims 1-3 and 5-16 are pending in the present application.

No new matter has been added by way of this amendment and new claims because each amendment and new claim is supported by the present specification. For example, the amendment to claim 1 is supported by claim 4 and the specification at page 2, lines 15-23 and page 8, lines 6-7. New claims 9-10 have support in the specification at page 3, line 25 to page 4, line 18. Newly added claims 11-16 have support in the specification at page 7, line 16 to page 8, line 3, and at page 10, lines 5, 13 and 21-22. Thus, no new matter has been added.

Based upon the above considerations, entry of the present amendment is respectfully requested.

In view of the following remarks, Applicants respectfully request that the Examiner withdraw all rejections and allow the currently pending claims.

Newly Submitted Claim 9 as Cited in the Office Action

Applicants note that in the Response to Unity of Invention Requirement, filed June 10, 2002, claim 8 was added. Thus, at

the time the June 10th Response was filed, claims 1-8 were pending in the present application. Thus, Applicants believe that claim 9, as cited in the Office Action (page 2), correctly refers to claim 8 of the June 10th Response.

Issues under 35 U.S.C. § 112, Second Paragraph

The Examiner has rejected claim 1 under 35 U.S.C. § 112, second paragraph, based on the claim language "can be". Applicants respectfully traverse.

Applicants note that claim 1 no longer recites "can be", but instead recites "is". Accordingly, Applicants believe that claim 1 fully complies with the provisions of 35 U.S.C. § 112. Applicants respectfully request the Examiner to reconsider and withdraw this rejection.

Issues under 35 U.S.C. § 103(a)

Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Ebnesajjad *et al.* (U.S. Patent Number 5,683,639; hereinafter Ebnesajjad '639) (see page 4 of the Office Action). Applicants respectfully traverse.

Claim 4 has been canceled, rendering the rejection of this claim moot. Applicants respectfully request the withdrawal of this rejection.

Issues under 35 U.S.C. § 102(b)

The Examiner has rejected claims 1-3 under 35 U.S.C. § 102(b) as being anticipated by Ebnesajjad '639 (see page 3 of the Office Action). Applicants respectfully traverse.

Ebnesajjad '639 Fails To Disclose All Claimed Features

Applicants respectfully submit that the Ebnesajjad '639 reference fails to disclose all features as instantly claimed. Claim 1 incorporates the features of claim 4, whereby claim 4 has not been cited under this provision of 35 U.S.C. Thus, because "a claim is only anticipated if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference," the cited Ebnesajjad '639 reference cannot be a basis for a rejection under § 102(b). *See Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Thus, because of the lack of disclosure of all claimed features, the rejection in view of Ebnesajjad '639 is overcome.

Applicants further submit that the presently pending claims are patentably distinct from the Ebnesajjad '639 reference for additional reasons.

The Present Invention and Its Advantages

A conventional method for molding polytetrafluoroethylene ("PTFE") into block shapes is described in Applicants' specification starting at page 1, line 20. However, the described method is not used to make sheets or film due to the large loss of materials when the deformation amount of the block-shaped molded article generated when baking is large.

However, with the present invention, a large PTFE molded article block having less distortion and small strain is produced.

Specifically, the present invention is directed to a polytetrafluoroethylene block-shaped molded article having a melt viscosity and a block deformation amount contained within a polygonal region surrounded by a straight line A: $x = 1.0 \times 10^9$ (melt viscosity of 1.0×10^9 poise), a straight line B: $x = 2.5 \times 10^{10}$ (melt viscosity of 2.5×10^{10} poise), a straight line C1: $y = 7.0$ (block deformation amount of 7.0%), a straight line D1: $y = 0$ (block deformation amount of 0%), a straight line E1: $y = -8.7\text{Log}_{10}(x) + 91$ in a graph with an x-axis being a common logarithm of the melt viscosity (poise) at 380°C of polytetrafluoroethylene and a y-axis being the block deformation amount (%) which is a weight loss until a stable film or sheet is cut from the molded article.

The PTFE block-shaped molded article is obtained by compression-molding and baking a polytetrafluoroethylene powder obtained by suspension polymerization. Also, the PTFE block-shaped molded article is cylindrical and has a height of at least 800 mm.

Other embodiments of the present invention include a certain range of the melt viscosity of the molded article (*i.e.*, see claim 2), specific amounts of block deformation (claim 3; claim 13), the PTFE molded article containing certain powder (claim 9), and certain roundness degree of the PTFE block-shaped molded article (claim 11; claim 12).

Even the advantages of the present invention have been experimentally confirmed. For instance, Example 1 of the specification resulted in a film having no distortion, curls or wrinkles (see page 13, lines 9-11). The same unexpected advantages were obtained for Examples 2-3. There is unexpectedly less loss of material with the present invention.

In contrast, the cited Ebnesajjad '639 reference fails to disclose all features and advantages of the present invention.

Additional Distinctions over Ebnesajjad '639

The Ebnesajjad '639 reference is directed to a method of producing small block-shaped articles, whereby the described

method provides improved utilization of sintering ovens by shortening the cycles (see Abstract; Col. 2, lines 20-38; claim 1 at Col. 10). The Office Action also refers to portions of Cols. 1 and 3 of Ebnesajjad '639.

However, Applicants respectfully submit that the Ebnesajjad '639 reference fails to disclose all features of the presently pending claims. For example, there is no disclosure in Ebnesajjad '639 of the claimed PTFE block-shaped molded article having a height of at least 800 mm. Ebnesajjad '639 merely discloses a height of 8.9 cm (see Col. 8, lines 34-35).

Applicants further submit that the Ebnesajjad '639 reference fails to disclose other features and the advantages of the present invention. One such advantage of the present invention that the method of Ebnessajad '639 cannot achieve is the claimed block deformation amount (or weight loss; see claim 1).

Besides the lack of disclosure of the molded article's height, when a PTFE block-shaped molded article is made by the method described in Ebnesajjad '639, a PTFE block-shaped molded article having a height of at least 800 mm cannot have the block deformation amount as instantly claimed. This is because the Ebnesajjad '639 reference discloses that the article is sintered under the state of placing the article into a furnace (see Col.

2, lines 29-31; claim 1 at Col. 10) (the described process is also known as "sinter-at-stand"). When the height of the article is large, this process of Ebnesajjad '639 leads to large losses of material due to the deformities in the molded article (until a stable film or sheet can be cut from the block-shaped molded article).

Applicants' specification at page 1, starting at line 20, even describes this conventional means of making a molded article (see step (b) at page 1, lines 23-25, which involves placing the preform into a furnace). Also, the sinter-at-stand of Ebnesajjad '639 is the same as shown in Comparative Examples 1-3 as described in Applicants' specification.

As shown in Comparative Examples 1-3 of the present specification, when the height of the article is large, the load at unit area of base or bottom of the article is high (for instance, see page 14, lines 15-17 of the specification) so that the article deforms during the sinter. The resulting deformation is due to the weight of the article itself. In other words, the block deformation amount in the case of the sinter-at-stand is dependent on the article's height and the melt viscosity of the polymer. Thus, the sinter-at-stand of Ebnesajjad '639 has drawbacks.

With regard to the melt viscosity of a polymer, Ebnesajjad '639 describes PTFE powder having the melt viscosity of at least 1.0×10^8 Pa·s (or 1.0×10^9 poise) (see Col. 1, lines 52-54). The described melt viscosity is substantially the same as Comparative Examples 1-3 tested in the present application. The described melt viscosity in Ebnesajjad '639 leads to large deformation amounts, and the molded article will not have the small material loss as achieved by the present invention. In contrast to the present invention, the described melt viscosity of Ebnesajjad '639 results in a molded article with relatively large weight losses, as those losses produced by Comparative Examples 1-3 of the specification (for example, see Comparative Example 1 at page 14, lines 11-12 for the described melt viscosity). Thus, with the method of Ebnesajjad '639, there is a large weight loss (block deformation amount) before a stable film or sheet is cut from the block-shaped molded article. The method of Ebnessajad '639 cannot achieve a block deformation amount as instantly claimed for an article that is at least 800 mm in height.

Conclusion

Accordingly, Applicants respectfully submit that are many patentable distinctions over the cited Ebnesajjad '639

reference. Ebnesajjad '639 fails to disclose all features and advantages of the present invention. Thus, Applicants respectfully request the Examiner to reconsider, and to withdraw all rejections and allow the currently pending claims.

Information Disclosure Statement of December 26, 2001

Applicants herein enclose a copy of the PTO-1449 form that was submitted with the Information Disclosure Statement filed on December 26, 2001. Applicants respectfully request the Examiner to consider each cited reference and to submit a copy of the initialed PTO-1449 form to Applicants.

A full and complete response has been made to the Office Action. The Examiner is respectfully requested to pass the application to issue.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant(s) respectfully petition(s) for a three (3) months extension of time for filing a reply in connection with the present application, and the required fee of $920.00 is attached hereto.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Eugene T. Perez (Reg. No. 48,501) at the telephone number of the undersigned below.

Attached hereto is a marked-up version of the changes made to the application by this Amendment.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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ADM/ETP:bmp
0020-4834P

Attachment: Version with Markings to Show Changes Made

(Rev. 02/20/02)

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claim 4 has been canceled.

The claims have been amended as follows:

Claim 1. (Amended) A polytetrafluoroethylene block-shaped molded article having a melt viscosity and a block deformation amount contained within a polygonal region surrounded by a straight line A: $x = 1.0 \times 10^9$ (melt viscosity of 1.0×10^9 poise), a straight line B: $x = 2.5 \times 10^{10}$ (melt viscosity of 2.5×10^{10} poise), a straight line C1: $y = 7.0$ (block deformation amount of 7.0%), a straight line D1: $y = 0$ (block deformation amount of 0%), a straight line E1: $y = -8.7\mathrm{Log}_{10}(x) + 91$ in a graph with an x-axis being a common logarithm of the melt viscosity (poise) at 380°C of polytetrafluoroethylene and a y-axis being the block deformation amount (%) which is a weight loss until a stable film or sheet [can be] is cut from the molded article,

wherein the polytetrafluoroethylene block-shaped molded article is obtained by compression-molding and baking a polytetrafluoroethylene powder obtained by suspension [polymerization.] polymerization, and

said polytetrafluoroethylene block-shaped molded article is cylindrical and has a height of at least 800 mm.

Claims 9-16 have been added.